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MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY

UNITED STATES DEPARTMENT OF AGRICULTURE

Number 28. August, 1916.

BUREAU VISITORS DURING AUGUST.

Dr. Wm. Morton Wheeler of the Bussey Institution has been spending some time in Washington looking over the ants of the Pergande collection which has been donated to the National Museum by Miss Pergande.

Prof. T. D. A. Cockerell has been working in the National Museum for a number of days onthe bees of the collection.

W. F. Fiske arrived in Washington on August 10. He expects to spend about two months in the country and then return to England. The Imperial Bureau of Entomology contemplates resuming the work on the bionomics of tsetse flies in Africa, immediately after the war.

Among the other Bureau visitors Dr. G. Okajaima, Professor of Entomology, at Kagoshima, Japan; Seymour Hadwen, Agassiz, British Columbia; W. G. Anching Kung, of of Shanghai, China; Prof F. Roberts of India; H. G. Barber and Ernest E. Scholl.

STATE FORESTERS OF NEW ENGLAND IN CONVENTION.

The Chief of the Bureau, together with A. F. Burgess and some of his colleagues, will attend the conference to be held September 7, at Crawford Notch, New Hampshire, by the State Foresters of New England, to consider the disposition of forest products from such woods as may be gone over with view of eliminating those species especially attractive to the gipsy moth.

INSECTS AS FOOD FOR MAN.

E. H. Gibson of the Charleston (Mo.) laboratory, has been experimenting with the larva of Plathypena scabra as food. He fried them and ate them between slices of bread and butter as sandwiches. This is the first time, I imagine, that any white man has eaten green caterpillars.

THE NATIONAL COMMITTEE FOR THE STUDY OF MALARIA.

Dr. L. O. Howard has been made chairman of the subcommittee of entomology on the National Committee for the Study of Malaria, and Dr. W. D. Hunter has been made a member of the subcommittee.

THE AGRICULTURAL APPROPRIATION BILL.

The appropriation bill, for 1917, which took effect on August 11 carries a total for the Bureau of $868,880, an increase of $38,980 over the amount appropriated for the fiscal year 1916. The increase is distributed over a number of lines of work, among them the grape berry-moth, insects transmitting diseases of cucumbers, tobacco insects, clover insects in the Northwest, extension work in apiculture, and live stock pests in the West. Thirty-four clerical and subclerical positions throughout the Bureau are placed on the statutory roll, and provision is made for the payment for medical supplies and service for the immediate relief of foremen, scouts, laborers and other employees injured while engaged in hazardous work in the prevention for the spread of moths. This provision is similar to one applying to the Forest Service which has been in operation for several years.

THE NEW ECONOMIC ZOOLOGIST OF PENNSYLVANIA.

Prof. James C. Sanders, late State Entomologist of Wisconsin, has been appointed to succeed H. A. Surface, at Harrisburg, Pa. Prior to his service in Wisconsin, Prof. Sanders was engaged in investigations relating to scale insects in the Bureau of Entomology and published several systematic papers on Coccidae.

ORIENTAL STUDENTS VISIT WITH FOREST INSECT INVESTIGATIONS.

Dr. W. G. Anching Kung, a graduate of Edinburgh University and Christ's College, Cambridge, paid several visits to this office during the month and spent one afternoon in company of Mr. Fisher at the East Falls Church Forest Insect Laboratory. Dr. Kung is on a year's traveling fellowship in this country prior to assuming the commissionership of Agriculture and Forestry in the province of Anhuei, China. Dr. Kung manifested a lively interest in the work of this branch.

On August 2 Dr. Ginji Okajaima of Kagoshima, Japan, examined our collection of forest insect work. He was prevented from seeing the Forest Insect Laboratory at East Falls Church only by the want of time.

A GUIDE TO ABBREVIATIONS.

It is often hard, especially in the case of the older writers, to identify the author from the abbreviation following an insect name. The following pamphlet, which may be consulted in the Bureau library, has proven helpful in such cases. It is "Liste der autoren zoologischer art-und gattungsnamen zusammengestellt von den Zoologen Museums fur Naturkunde in Berlin. Zweite verm. aufl. Berlin, R. Friedlander & Sohn, 1896. 68p. 4to." (M.C.)

Wm. B. Middleton will resign in the early autumn and will take a special course in entomology at Cornell University.

A NEW METHOD OF PREPARING KEROSENE EMULSION.

The following is extracted from a recent report of Dr. W. V. King:

In preparing the kerosene emulsion this year a great improvement was effected as the result of some experiments made at my request by the Chemical Department of the State College at Bozeman. Previously we had made the emulsions with a sodium soap in hot solutions and it was found that after the emulsion had been added to the dips, a large part, usually over half, would "separate out" and had to be removed to prevent "scalding" of the stock. This year potassium soap (green soap) was used and the emulsion made in a cold solution. The formula and methods which gave good results were:

Soap Solution:

Potassium soap	12 lbs.
Water	2 gals.

Dissolve the soap in the water by heating, make up to three gallons and cool. If the soap solution is to be kept any time before using it should be placed in a tight container to prevent the formation of a "crust" on top.

Kerosene Emulsion:

Soap solution (cold)	1 3/4 - 2 qts.
Kerosene	3 gal.

Put the soap solution in a 5-gallon spray pump and spray back until a creamy foam is formed; add small amount (1 pint) of kerosene and spray back until emulsion has started, making sure that the emulsion is forming before adding more kerosene; then add remainder of oil slowly, spraying back continuously. When the emulsion is complete it will appear as whipped cream. Pour the emulsion made with 10 gallons of kerosene into the mixing tank and add from 100 to 200 gallons of water and mix. This mixture is then run into the dipping tank with the arsenic solution. In one dip we skimmed off a very small amount of oil but in the other this was not necessary, the dip simply being stirred before animals were passed through.

PUBLICATIONS ISSUED DURING AUGUST.

The Argentine Ant: Distribution and Control in the United States, by Ernest R. Barber; Department Bulletin No. 377, issued August 18.

A NEW LIST OF PUBLICATIONS ISSUED.

A new list of publications of the Department of Agriculture, has recently been issued by the Division of Publications. This list covers all publications from July 1, 1913 and is revised to April 30, 1916. It may be had by applying to Mr. Jos. A. Arnold, Editor and Chief, Division of Publications.

LIBRARY

Miss Mabel Colcord, Librarian.

NEW BOOKS

Bazin, G. A. The natural history of bees. Lond. 1744. 452p. illus., fold. pl.

Berattelse ofver skadeinsekter upptradande in Finland ar 1913, ed. Walter M. Linnaniemi. Helsingfors, 1915. 68p. map.

Blackman, W. M. & Ellis, W. O. Some insect enemies of shade trees and ornamental shrubs. 123p. illus., col.pl. (N.Y. State College of Forestry, Syracuse univ. Bul. v.16 no.26, 1916)

Broek, M. van der and Schenk, F. J. Ziekten en beschadigungen den tuinbouwgewassen. Groningen, 1915. 2v. 1. Dierlijke en plantaardige, parasiten. 2. Bestrijdingsmeddelen en Wettelijke voorschriften.

Distant, W. L. Fauna of British India including Ceylon and Burma. Rhynchota. v.6. Homoptera: Appendix. London, March, 1916. 248p. illus.

Dudgeon, Gerald C. The boll worm in Egypt. London, 1916. 36p., II col.pl., (Reprinted from Trans. Third Internat. Cong. trop. agr. held at the Imperial Institute, London, June, 1914)

Graham-Smith, G. S. Observations on the habits and parasites of common flies. (Parasitology, v.8, no.4, p.440-544, illus., XXIII-XXX pl. June 30, 1916. References, p.541-542.

Howard, L. O. Francis Marion Webster. (Proc. Entom. Soc. Washington, v.18, no.2, p.77-83, with portrait, June, 1916)

King, W. V. Experiments on the development of malaria parasites in three American species of Anopheles. (Jour. exper. med. v.33, no.6, p.703-716, 98-105 pl. June, 1916) Bibliography, p.714.

Miner, T. B. American bee keeper's manual. N.Y., 1852. 349p.

Norway - Statsentomolog. Om skadeinsekter og snyltesopp paa skogtraene i 1913-1914. Kristiania, 1914-1915.

Parkhurst, Thomas. A theatre of politicall flying-insects... Bees. 1657. 387p.

U.S.Dept.of Agriculture. List of publications issued since July 1, 1913. Revised to April 30, 1916. 85p. Gives a numerical list of Department bulletins and contents of each number of the Journal of agricultural research through vol.6, no.4.

Wasmann, E. Termitophile und myrmecophile coleopteran. (Zool. jahrbucher. Abt. fur syst. Bd. 39, hft. 2, p.169-210, 4-5 pl. 1916)

BEE CULTURE

E. F. Phillips, In Charge.

Dr. E. F. Phillips recently returned from a trip through Iowa, Ohio and Tennessee, on which he attended a number of field meetings of beekeepers.

Arrangements for the extension work in beekeeping in North Carolina are practically complete. George H. Rea, now inspector of apiaries for Pennsylvania, will conduct this work, which was begun last fall by E. G. Carr. Arrangements have also been made for an examination to obtain other men. The examination will be open only to experienced practical beekeepers.

CEREAL AND FORAGE INSECT INVESTIGATIONS.

W. R. Walton, Acting in Charge.

The Field Station formerly conducted at College Park, Md., was abolished July 1. R. J. Kewley of that station has been transferred to Columbia, S. C., and A. B. Gahan, formerly in charge, will be located at Berwyn, Md., for the present.

The Field Laboratory formerly located at Missoula, Mont., was closed on August 17 and W. H. Larrimer, formerly in charge, has been transferred to Charleston, Mo., where he will take charge of the Field Laboratory at that point.

Frederick A. Fenton of the West Lafayette, Ind., station has requested a furlough until June, 1917, for the purpose of pursuing some special entomological studies.

NEWS ITEMS FROM CHARLESTON (MO.) FIELD STATION.

August 19, 1916.

The first generation larvae of the fall army worm, **Laphygma frugiperda** S. and A. appeared in southeastern Missouri during the first week in August. At present they are abundant in nearly all alfalfa and clover fields. There is practically no late corn, in this section, for them to attack. The true army worm **Heliophila unipuncta**, has been present since early summer but at no time in destructive numbers.

Meadows and pasture lands in southwestern Missouri have been damaged considerably this year by flea-beetles, undetermined as yet.

[Signed] Edmund H. Gibson.

NEWS ITEMS FROM WEST LAFAYETTE (IND.) FIELD STATION.

August 21, 1916.

The past season has been remarkable for the scarcity of serious outbreaks of insects attacking cereal and forage crops in our territory.

The Hessian fly was very destructive last fall and this spring and the stalk borer **(Papaipema nitela)** was very numerous. The corn root aphis (**Aphis maidiradicis**) and the western corn root worm (**Diabrotica longicornus**) were injurious in a few localities and especially in southern Indiana, and all instances where injury was observed. the corn had been planted on corn ground. The flea hopper **(Halticus citri)** was injurious to lawns at Lafayette and also did considerable damage to vegetable crops but its presence in injurious numbers was not observed in the field. The injury to timothy by white ants **(Leucotermes flavipes)** was common along roadsides in southern Indiana and Illinois but we have observed no serious injuries in timothy fields by this insect, which may be accounted for by the disturbance of colonies through rotation while timothy and grass usually grows undisturbed along roadsides for many years in succession. White ant injuries may be distinguished from **Sphenophorus** injury, which is also common bordering roadsides in southern Indiana and Illinois, by the fact that the termites completely hollow the bulb leaving a very thin shell thereby killing the plant, while **Sphenophorus** larvae, as a rule, fill their burrows with frass and much less frequently kill the plant.

[Signed] J. J. Davis.

NEWS ITEMS FROM THE TEMPE (ARIZ.) FIELD STATION.

August 2[illegible], 1916.

The three-cornered alfalfa hopper (Stictocephala festina) is exceedingly numerous this season upon alfalfa, Bermuda and other grasses. Several thousand specimens of this species have been sent to Philip Luginbill at Columbia, S. C., who is making a study of the structural characteristics of the species. Some field spraying experiments are to be undertaken about the first of September, looking towards their control. If any of the men of the other field Laboratories have any suggestions to make, we should be glad to receive them.

Colaspis brunnea is exceedingly numerous in the Salt River Valley, and adults are injuring fruit trees, such as plums and apricots. The study of this beetle is being undertaken by Mr. Hogg.

Bruchophagus funebris has been quite injurious to the growing of alfalfa seed; only about half as much seed was harvested this year as last, and in many

cases, the alfalfa was cut for hay rather than seed.

Languria mozardi is numerous in the alfalfa stems; actual count showing as high as eighty percent infestation.

Work is being completed on the life history and control measures of **Agromyza gibsoni.**

Laphygma frugiperda has made its appearance during the last two weeks, and in some few locations, is causing considerable damage to corn. Dusting with lead arsenate has been recommended and is proving of value.

F. H. Gates, of this laboratory, attended the meeting of the A. A. A. S. at San Diego, Cal.

[Signed] V. L. Wildermuth.

NEWS ITEMS FROM THE GAINESVILLE (FLA.) FIELD STATION.

Reports from various parts of Florida state that the large "lubber" grasshopper, **Dictyophorus reticulatus**, and the large "bird" grasshopper, **Schistocerca americana**, are very numerous but not yet doing much damage to cultivated crops.

Ravages of the cowpea curculio, **Chalcodermus aeneus**, continue serious.

The velvet bean caterpillar, **Anticarsia gemmatilis**, is beginning to defoliate the velvet beans in southern Florida.

[Signed] R. N. Wilson.

NEWS ITEMS FROM MAXWELL (N. M.) FIELD STATION.

August 23, 1916.

Hemileuca oliviae -- The few larvae present have made considerable growth recently due to heavy showers, especially in the areas of low ground. Many of these larvae are parasitized. Adults of the imported parasite Campsilura concinnata are being recovered. A few larvae are spinning up preparing to form pupae.

Pentatoma sayi -- Adults of third generation, and nymphs of second generation present in the field. Not numerous enough to cause appreciable damage this season.

Grasshoppers -- Locally present in destructive abundance, in a few sections of the irrigated areas. Poisoned baits giving good results.

Meliana albilinea -- Most of larvae have gone into ground for pupation, the remainder being present on oats and millet.

Collops bipunctatus -- Still continues to be abundant in grain fields and on the range grasses.

Macrobasis unicolor -- This species, which was very abundant during June and July on alfalfa, has greatly decreased in numbers.

Harpalus retractus -- The serious damage of a field of corn was due to the work of this species feeding upon the newly sprouted shoots.

NEWS ITEMS FROM THE HAGERSTOWN (MD.) FIELD STATION.

August 24, 1916.

The earlier indications of a Cimbalis [illegible] outbreak did not materialize. Very few larvae were collected in the field. Of those collected, none were found to be parasitized, so an excessive parasitism cannot be accredited with the destruction of the insects. It is barely possible that egg parasites could have reduced the outbreak. We are inclined to believe, however, that meteorological factors are accountable for this season's immunity. Our lack of knowledge as to the exact effect of

these important factors is one of our greatest weaknesses.

The clover root weevils, **Hylastes trifolii**, are now rapidly becoming adult. The indications are that this insect will be as troublesome next year as it has been this year.

Agrotis c-nigrum is now flying in large numbers to the trap light, as are also **Caenurgia erechtea.**

[Signed] J. A. Hyslop.

DECIDUOUS-FRUIT INSECT INVESTIGATIONS
A. L. Quaintance, In Charge.

Dr. A. L. Quaintance left for an extended trip for the purpose of visiting field laboratories engaged in deciduous fruit insect investigations at North East, Pa., Benton Harbor, Mich., Sandusky, Ohio, Wenatchee, Wash., Walnut Creek, Cal., and Grand Junction, Colo.

FEDERAL HORTICULTURAL BOARD.
C. L. Marlatt, Chairman.
(In Cooperation with the Bureau of Entomology.)

H. A. Ballou of the West India Department of Agriculture, Glenn W. Herrick of Cornell University and W. J. Schoene, State Entomologist of Virginia, visited the fumigation plants in Boston during the past month.

R. I. Smith reports that during the first five months of operation the two fumigation plants of Boston had fumigated some 114,909 bales of cotton.

Harold Morrison recently collected the mango weevil in seeds of mango from India.

R. Kent Beattie, Pathological Inspector of the Board, has been temporarily transferred to the Office of Forest Pathology. Mr. Beattie is now making an extended trip through the West to study the distribution of various species of currants, gooseberries, and pines and their relation to one another, data which will be of great value in case an outbreak of the white pine blister rust should occur west of the Rockies.

H. L. Sanford, who has been temporarily located in Brooklyn supervising the fumigation of cotton, returned to Washington on August 22.

Jos. H. Batt, Assistant, In Charge Cotton Importations, recently made a trip through the New England States, along the Ohio valley, through Pennsylvania, New York, Virginia, North Carolina, South Carolina and Georgia for the purpose of conferring with the Board's inspectors and with Collectors of Customs in regard to the importation of cotton and the materials covered by amendment No. 5 to the cotton regulations (burlap and other fabrics used for wrapping cotton) and of inspecting cotton mills and paper and other mills using the materials covered by said amendment.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS
W. D. Hunter, In Charge.

W. V. King has completed the season's work on the spotted fever tick in Montana and resumed his work on malaria mosquitoes in Louisiana early in the month.

J. L. Webb has been detailed for a preliminary investigation of horse flies in Nevada and other western states. In company with Mr. F. C. Bishopp, who will have direct charge of the work, he has attended a conference with the authorities of the

Nevada Experiment Station at Reno.

J. U. Gilmore has undertaken work on tobacco insects at South Boston, Va.

F. L. McDonough who has spent some months at Quincy, Fla., will proceed shortly to Clarksville, Tenn., for further work under A. C. Morgan.

The following men have been given temporary appointments as field assistants in connection with the work on tobacco insects:

Scott C. Lyon,
Oakley M. Shelby,
A. D. Bosley,
Samuel F. Grubbs,
Carl A. Wickland,
D. M. Rogers,
Joe Milam,
Kenneth B. McKinney,
F. G. Sorrells,
Richard K. Catlett,
Walter C. Nagle,
Louis A. Stearns,
L. S. Hale,
Edmund H. Vance,

TROPICAL AND SUBTROPICAL INSECT INVESTIGATIONS
C. L. Marlatt, In Charge.

R. S. Woglum, in field charge of the citrus fruit insect investigations in California, has transferred his station from Pasedena, Cal., to Alhambra, Cal.

J. R. Horton has submitted for publication a paper on "Some Weather Proof Bands for Use Against Ants".

E. R. Sasscer and A. D. Borden have submitted for publication as a Farmers' Bulletin a paper on "Fumigation of Ornamental Greenhouse Plants with Hydrocyanic-Acid Gas".

E. A. Back and C. E. Pemberton recently submitted for publication a paper on "The Melon Fly in Hawaii".

TRUCK CROP AND STORED PRODUCT INSECT INVESTIGATIONS
F. H. Chittenden, In Charge.

Among insects which have attracted attention during August, the melon aphis is prominent. In one sending it was noticed that on a dwarf cucumber, about an inch and a half in length, wingless forms had congregated, also on the cucumber blossoms. It would be interesting to know if this happens in the field, and under what circumstances.

The squash-vine borer has been very abundant and destructive during the summer, and the pickle worm is beginning to attract attention.

A correspondent in Michigan sent in specimens of a wasp of the genus Ammophila, reporting that it was observed capturing cutworms, appearing to take no other form of insects. The species of this genus are well-known as feeding on caterpillars of different kinds but, so far as records go, at least in recent years, they have not been noticed attacking cutworms.

Weevils affecting stored products are unusually abundant this year. The subject of weevils in corn has always attracted attention in the South during the autumn. This year weevils in wheat are a frequent source of complaint. Similarly, continual requests are being received for remedies for weevils in leguminous seed, especially in cowpeas. This class of correspondence is met by circular letters especially prepared for the purpose.

The blackberry leaf-miner or sawfly, known as **Scolioneura capitalis**, has been destructive during the month in New York State. It has been found in the past in Maryland and Virginia, but rarely about Washington.

Mr. C. H. Popenoe is on his second visit to the experiment stations established in Indiana, Michigan, and Wisconsin, for the investigation and control of the striped cucumber beetle and other insects as carriers of mosaic and other cucurbit diseases.

A hint on sending specimens. -- So much trouble has been experienced in obtaining specimens of insects and their work even from nearby places that an agent was requested to label his packages "Live insects", "handle with care", "Please do not delay." in a prominent place. This suggestion is being carried out with the result that specimens frequently reach their destination before the letter.